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NE NPR-A Amendment Planning Team
Bureau of Land Management
Alaska State Office
222 West 7th Ave.
Anchorage, AK 99513-7599

Dear NE NPR-A Planning Team:

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On behalf of the National Audubon Society (Audubon) and the National Wildlife Federation[1] (Federation), here are our comments on the Northeast National Petroleum Reserve-Alaska Draft Amended Integrated Activity Plan / Environmental Impact Statement (DEIS).

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Audubon is dedicated to the conservation of Alaska's natural ecosystems, focusing on birds, other wildlife, and their habitats, for the benefit and enjoyment of current and future generations. The National Wildlife Federation is committed to protecting the wildlife and wild places of Alaska while building a broader, more diverse constituency for conservation.

SUMMARY

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Audubon and the Federation strongly recommend selection of Alternative A, the No Action Alternative, in the Final Environmental Impact Statement and Record of Decision. The Preferred Alternative (B) and Alternative C, as presented in the DEIS, will place the fish, wildlife, and subsistence resources within the Teshekpuk Lake Surface Protection Area at significant risk.

004 Basic

We are particularly concerned about the Teshekpuk Lake Caribou Herd, molting geese, and nesting water- and shorebirds within this unique and sensitive portion of the Arctic Coastal Plain. There is no new scientific evidence indicating that the size of the Teshekpuk Lake Surface Protection Area can be reduced without jeopardizing biological and subsistence resources, and we find that there is strong consensus within the scientific community that current protections as defined in Alternative A should be maintained.

005 Stips & ROPs

We also object to substituting performance-based stipulations and required operating procedures for the existing 79 prescriptive stipulations because they fail to provide the same level of conservation safeguards and precautionary management. In conclusion, we are surprised and disappointed that BLM rolled back the Teshekpuk Lake Surface Protection Area safeguards—established in the 1998 Record of Decision—without providing any scientific evidence justifying this risky management action.

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BACKGROUND

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At 23.5 million acres, the National Petroleum Reserve-Alaska (NPR-A) is the single largest unit of public land in the United States and has long been recognized as containing significant habitats important to wildlife. For example, more than 70 percent of the Arctic Coastal Plain—which provides critical nesting, molting and staging habitat for millions of ducks, geese and swans—lies within NPR-A. The Northeast NPR-A includes the Teshekpuk Lake Special Area (TLSA) and Colville River Special Area, which were designated by the Secretary of the Interior in 1977 because of their very high fish, wildlife and subsistence values.

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Since the 1998 Record of Decision (ROD) for Northeast NPR-A, 87 percent of the planning area has been open to oil and gas leasing (including 67 percent of the area with highest oil and gas potential). Several parts of Northeast NPR-A were closed to leasing, surface activity or permanent oil and gas facilities. These areas included buffers along the Colville River, Kikiarorak and Kogosukruk rivers, and Fish and Judy creeks, as well as in the Teshekpuk Lake Surface Protection Area. The area around Teshekpuk Lake is a

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critical annual molting area for up to 30 percent of brant in the Pacific Flyway and an important calving area for the 45,000-animal Teshekpuk Lake Caribou Herd. The TLSPA encompasses 857,860 acres, including 588,988-acre no-lease area in the north and a 268,861-acre no-surface activity zone in the south. The TLSPA was protected because of its very high fish, wildlife, and subsistence values.

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For many years now, Audubon, other conservation organizations, and several resource agencies, including the US Fish and Wildlife Service and the Alaska Department of Fish and Game, have recommended special protections for the Teshekpuk Lake and Colville River areas. Within Northeast NPR-A, Audubon has recommended that the Teshekpuk Lake area be permanently dedicated to the conservation of wildlife and withdrawn from

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leasing and development. The unique Teshekpuk Lake, many smaller lakes, and adjacent coastal wetlands comprise the most productive, diverse, and sensitive wetlands ecosystem in the American Arctic (Silva 1985, BLM 1998). The Wildlife Society (19 August 2004 letter to BLM) recently described this area as "…the most important goose molting habitat in the circumpolar arctic…" Audubon also has requested permanent protection for

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the Colville River and its key tributaries. We recognize and concur with the decision to defer planning for the Colville River until a plan for the entire river corridor is addressed during planning for Southern NPR-A.

CONCERNS WITH THE NORTHEAST PLAN AMENDMENT/DEIS

Teshekpuk Lake Surface Protection Area

012 Special Designation

The DEIS fails to provide any scientific analysis or justification for modifying the TLSPA within the TLSA. The TLSA (~ 1.75 million acres) was established by the Secretary of the Interior in 1977 because of its extraordinary fish, wildlife and subsistence values. It encompasses highly vulnerable and important habitats, including a high percentage of wetland and riparian communities and significant wildlife

012 (Cont'd) Special Designation

populations, including brant and other waterfowl nesting, molting and staging areas, as well as the calving grounds for the Teshekpuk Lake Caribou Herd. The TLSA is also a particularly important nesting area for threatened spectacled eiders and rare yellow-billed loons.

013 Special Designation

The TLSA has significant wilderness and subsistence values and represents an important ecological benchmark for future research and monitoring activities of Arctic wetlands. The BLM (1978) has identified the border of Teshekpuk Lake as an area of concentrated archeological sites. The area around the lake was identified by the US Geological Survey (USGS) as a potential land- and life-form natural landmark (BLM 1978), proposed by Veireck and Zasada (1972) as an ecological reserve, and proposed by Koranda and Evans (1975) as a potential natural landmark.

014 Special Designation

In 1998, the Final Environmental Impact Statement and ROD for oil and gas leasing in Northeast NPR-A further recognized the unique values of the TLSA by establishing the TLSPA, as described above. Audubon Alaska's (2002) western Arctic synthesis provided further confirmation that the conservation measures applied to the entire TLSPA were justified on biological grounds and should remain in place.

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The Nature Conservancy (TNC) recently completed an ecoregional assessment of the Teshekpuk Lake Area (TNC 2004) and concluded:

1. The Teshekpuk Lake Area [i.e., the TLSPA] has a very high relative biodiversity index compared to other areas within the Arctic Ecoregion.

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2. The Teshekpuk Lake Area has a very high relative biodiversity index (RBI) compared to the Beaufort Coastal Plain (which also has a high index compared to the entire ecoregion). For example, 72 percent of the TLA rates above the 70th percentile of RBI for the Beaufort Coastal Plain.

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3. The Teshekpuk Lake Area has very high representation for the Teshekpuk Lake Caribou Herd, brant, and geese in general. According to TNC, "The TLA is of great significance to the sustainability of several species." The TLA is also very important in terms of representing several rare habitats including coastal barrens, coastal grass and dwarf shrub, coastal wet sedge, and lowland lake habitats.

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In summary, the Audubon Alaska (2002) Western Arctic Resource Synthesis, TNC (2004) Ecoregional Assessment, and letters of public comment to BLM from The Wildlife Society (19 August 2004), Wildlife Management Institute (9 August 2004), Pacific Flyway Council (2 July 2004), and Ducks Unlimited (18 August 2004) provide scientifically compelling evidence and a consensus recommendation for maintaining the TLSPA as defined in Alternative A.

019 Basic

In October 2003 scoping comments on proposed revisions to the Northeast NPR-A plan, Audubon specifically requested that BLM provide documentation of new biological and other studies indicating that oil and gas leasing could be expanded in what is now the

TLSPA without jeopardizing biological and subsistenece resources. The DEIS failed to provide this documentation.

Caribou

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General Concerns: Northeast NPR-A provides critical calving and insect relief habitat for the 45,000-animal Teshekpuk Lake Caribou Herd, which is the most important subsistence herd for North Slope villages (Carroll 2003). The TLSPA was established in Northeast NPR-A, in part, to protect important caribou calving and insect-relief habitat. The 1998 ROD restricted development in this area following lengthy and detailed consultation with local residents and caribou scientists.

021 Caribou

The Preferred Alternative in the DEIS reduces the size of the TLSPA by 75 percent. Only 213,000 acres north and northeast of Teshekpuk Lake would be closed to leasing, thus opening most of the concentrated calving area to oil development. Important caribou insect-relief habitat also would be opened to oil development. Under Alternative A (status quo for the TLSPA), 74 percent of the concentrated calving area (as defined by the Univ. of Alaska Fairbanks, 2001) was protected (Fig. 1). In contrast. under the Preferred Alternative, only 12 percent of this sensitive area is protected (Fig. 2). Thus, 88 percent of the concentrated calving area would be at risk. The TLSPA now protects 84 percent of the insect-relief habitat as defined in 2003 by the Alaska Department of Fish and Game, North Slope Borough, and ABR Inc. (Fig. 3). Under the Preferred Alternative, only 41 percent of insect-relief habitat would be protected from oil development (Fig. 4).

022 Caribou

The DEIS provided no new scientific data to justify reducing the size of the TLSPA with respect to these important caribou habitats. The Preferred Alternative places Teshekpuk Lake caribou at risk of being displaced from their calving grounds and having their movements disrupted during the critical insect season. Significant displacement and disturbance during calving and insect seasons likely would result in declining productivity, resulting in population-level impacts to the herd. A substantial decline in the size of the herd would reduce subsistence opportunities for residents of North Slope communities.

023 Caribou

Concerns about caribou also have been raised by the National Research Council (2003) in its review and analysis of the cumulative effects of oil and gas activities on Alaska's North Slope:

> If the calving ground of the TLH [Teshekpuk Lake Herd] continues to be protected, direct conflicts with parturient females of that herd are unlikely, provided that their movements are not impeded. However if inland lease tracts in the northeastern portion of the National Petroleum Reserve-Alaska are developed, effects on midsummer distribution, habitat use, and productivity of the TLH caribou are possible.

024 Caribou

Specific Concerns: In the 1st paragraph, p. 3-49, under caribou migration, the DEIS

024 (Cont'd) Caribou

states: "After calving, caribou spread out from the calving area to the east, west, and south." According to caribou biologists, this description is incorrect: parturient caribou from the herd migrate north along the narrow corridor of land east of Teshekpuk Lake (G. Carroll, ADF&G, pers. communication, July 2004). During this critical period, cow caribou and calves are highly sensitive to disturbance. This important migration corridor is now protected in the TLSPA, and the Preferred Alternative would open it at great risk to this caribou herd.

005 Impact

In 3rd paragraph, p. 4-210, the DEIS acknowledges that the impacts of the Preferred Alternative to terrestrial mammals would be greater than the No Action Alternative because of the larger development scenario. However, it is inferred that the degree of impact would result from developing only "…345 to 4,310 additional acres of habitat…" This represents a very low estimate in terms of a development scenario, and it significantly underestimates the potential impacts to mammals, such as calving caribou or caribou seeking insect relief. In fact, the TLSPA was reduced by 75 percent to a no-lease zone of 213,000 acres. The reference to a few hundred or few thousand acres only relates to the actual footprint of habitat covered by gravel, and not to the broader effects of the oilfield infrastructure. For example, caribou in the Central Arctic Herd were displaced by up to 2.5 mi from development infrastructure during calving. Thus, the impacts of development go well beyond the direct acres affected by development.

026 Caribou

An additional concern at Teshekpuk Lake is the geographic bottleneck east of the lake through which caribou must move to find relief from insects. Placing oilfield infrastructure within this constricted region, where caribou are forced to pick their way among lakes and between lakes and the coast is likely to further impede their movements.

027 Caribou

In 6th paragraph, p. 4-210, the DEIS states: "…many caribou movements to coastal insect-relief areas occur to the east of the lake, and therefore would not be affected under the Preferred Alternative, as a region northeast of Teshekpuk Lake would be excluded from leasing." This is misleading because the greatest geographic bottleneck occurs between Teshekpuk Lake and the Kogru River, which would be open for oil development under the Preferred Alternative. Further, this statement underestimates impacts by assuming that the periphery of the no-lease area would not be influenced by adjacent development infrastructure and activities. It is quite possible that caribou movements will be influenced by adjacent developments several miles away.

028 Caribou

Areas on the coast or directly east of Teshekpuk Lake, outside of the no-lease zone, also could influence caribou distribution and movements within the adjacent no-lease zone. Important insect-relief habitat occurs all the way out to the coast and to the east and west of the lake. Fragmenting this habitat with oilfield infrastructure and activities would likely affect caribou movements. Although caribou may move through infrastructure when harassed by insects, they also must move back to prime foraging areas. The movement back to optimal foraging areas could be restricted by industrial infrastructure, thus compromising the nutritional status of individuals and potentially resulting in herd decline (G. Carroll, ADF&G, pers. communication, July 2004).

029 Impact

On p. 4-214, the DEIS again acknowledges that the Preferred Alternative would have greater impacts on caribou than would the No Action Alternative. However, there is no clear quantification of those impacts. Later, it is inferred that the 213,000 acre no-lease area and stipulations in the areas open to leasing would protect caribou at Teshekpuk Lake. These assurances, however, are based on few data, and there is little analysis to demonstrate that there are adequate conservation safeguards for this important caribou herd. Although the DEIS acknowledges that the Preferred Alternative has greater impacts than the No Action Alternative, it is difficult—if not impossible—to evaluate how much greater those impacts would be. We simply cannot accept on faith that the additional impact will be minimal, but that is what the DEIS asks us to do.

030 Stips & ROPs

Caribou Stipulations and Routine Operating Procedures: Lease stipulations and routine operating procedures (ROPs) in the Preferred Alternative do not provide the same level of conservation safeguards and precautionary management as does the 1998 plan. For example, the major stipulations to minimize impacts to caribou that use the Teshekpuk Lake Caribou Habitat Area are contained in Stipulation K-5(a-e). Although these stipulations are designed to reduce or minimize industrial impacts to caribou, there are no clear measures of their effectiveness in reducing or minimizing impacts to caribou in this important habitat area. In contrast, the 1998 plan—in recognition of the habitat values of this sensitive area—protected the area in its entirety as the TLSPA.

031 Stips & ROPs

The Preferred Alternative offers only promises that general stipulations and ROPs, with many exceptions, will minimize impacts. For example, K-5(a) states:

> Before authorization of construction of permanent facilities, the lessee shall design and implement a study of caribou movement … The study shall include a minimum of 3 years of current data on caribou movement and the study design shall be approved by the AO and should provide information necessary to determine facility (including pipeline) design and locations.

032 Stips & ROPs

Certainly, a three-year study would be valuable for helping design infrastructure in a way to minimize impacts to caribou. Three years, however, is a very short time from which to develop guidelines applicable to an environment that displays high annual variability and a species that undergoes major and unpredictable fluctuations in population size and behavior. It also is relevant that a similar stipulation applied to the 1998 plan, but the study provision was never implemented, even though there have been leases sold within the areas covered by the stipulation. Broken promises do not enhance our faith in either BLM's or the industry's commitments for environmental protection in an area of high importance in the circumpolar Arctic.

033 Stips & ROPs

Lease Stipulation K-5(c) requires that: "…leasees shall orient linear corridors when laying out oil field developments, to the extent practicable, to address migration and corralling effects and to avoid loops of road and/or pipeline that connect facilities." [emphasis added] Lease Stipulation K-5(d) states: "Ramps over pipelines, buried pipelines, or pipelines buried under the road may be required…" [emphasis added] It is unclear what stipulations like these really mean in actual on-the-ground implementation,

and there is no guarantee of compliance if project costs are unfavorable.

034 Stips & ROPs

Another example of the uncertainty between intent and actual implementation is Stipulation K-5(e)(6), which applies to minimum aircraft heights over the Teshekpuk Lake Caribou Habitat Area. This stipulation states: "…unless doing so would endanger human life or violate safe flying practices." The likelihood of regularly applying this reasonable stipulation is low because the North Slope often experiences coastal fog and low overcast conditions requiring much lower flight levels. Clearly, the stipulations in the Preferred Alternative do not provide the same level of protection that the 1998 plan provided because industrial infrastructure and activities were simply not permitted in the TLSPA. The Preferred Alternative presents a major-but-uncalculated risk to caribou within the sensitive Teshekpuk Lake Caribou Habitat Area.

035 Cumulative

General Comments: The significance of observed short-term effects on Arctic caribou from oil exploration and development is debated by the oil industry because some caribou still use habitats within the Prudhoe Bay and Kuparuk oil fields, especially during the post-calving period (Cronin et al. 2000). It is clear, however, that potential long-term and cumulative effects on caribou nutrition, reproduction and mortality may be significant (Wolfe et al. 2000, Griffith et al. 2002, Cameron et al. 2002, NRC 2003).

036 Caribou

Demonstrable development-related effects on that portion of the Central Arctic Herd occurring within the oil fields were observed during 1980-2000, despite masking effects of relatively low caribou densities and highly favorable weather on the calving grounds (Wolfe 2000, Cameron et al. 2002, Griffith et al. 2002). Effects on caribou have included shifting of concentrated calving from the Kuparuk oil field to the southwest of the field, and delaying and deflecting movement to and from coastal insect-relief areas (Whitten and Cameron 1983; Dau and Cameron 1986; Cameron et al. 1992; Nelleman and Cameron 1996, 1998; Murphy and Lawhead 2000; Wolfe 2000).

037 Caribou

Although the Central Arctic Herd increased from about 5,000 animals in 1978 to an estimated 27,000 in 2000, a population decline occurred from 1992 to 1995, followed by a rebound (Cameron et al. 2002). The National Research Council (2003) suggested that the combined effects of industrial activity and infrastructure and the stress imposed by insects might have contributed to the reduction in size of the herd seen from 1992 through 1995. Cronin et al. (2000) argued that population-level impacts from oil field development have not occurred for this herd. However, comparing the higher growth rate of the Teshekpuk Lake Herd to the growth rate of the Central Arctic Herd, Griffith et al. (2002) suggested that the Central Arctic Herd might have been influenced by development infrastructure after approximately 1987.

038 Caribou

Notwithstanding oil development's negative effects on caribou in the Central Arctic, favorable environmental conditions, a low density of animals on the calving and post-calving grounds, and available calving area outside the oil fields on the broad coastal plain may have minimized the population-level impacts at this time. Griffith et al. (2002) predicted significant population-level impacts to the Porcupine Caribou Herd from industrial development of the concentrated calving ground. This also may be a problem for caribou at Teshekpuk Lake if development occurs within their concentrated calving

area or oil field infrastructure affects seasonal movements of the herd, particularly during insect season.

039 Caribou

Generally, some caribou appear to habituate to the presence of structures in oil fields (Ballard et al. 2000), but not to human presence and vehicular traffic (Nelleman and Cameron 1998). Caribou in the Central Arctic avoided areas within 2.5 mi of roads and pipelines, functionally increasing habitat loss from 2 percent (the immediate footprint of roads and gravel pads) to 29 percent (Wolfe 2000).

040 Caribou

The sensitivity of caribou to human activity and structures is greater during calving than during insect seasons, greater for maternal than nonmaternal caribou during the calving period, and greater during periods of intense insect harassment versus no insect harassment during summer (J. Dau, Alaska Department of Fish and Game [ADFG], Kotzebue, AK, pers. communication, 2002). At Prudhoe Bay, large groups of caribou often crossed roads with traffic and feeder pipelines during intense insect harassment, but were reluctant to do so after insect harassment had abated (Dau, pers. communication 2002).

041 Caribou

Dau and Cameron (1986) clearly showed maternal caribou avoided roads during calving even when traffic levels were low, but nonmaternal caribou did not. In the range of the Central Arctic Herd, where oil development has occurred on a portion of the calving grounds, cows in the late stage of pregnancy and with newborn calves avoided and shifted concentrated calving away from developed areas, including from prime calving and foraging habitat (Whitten and Cameron 1983; Dau and Cameron 1986; Cameron et al. 1992; Nelleman and Cameron 1996, 1998; Murphy and Lawhead 2000; Wolfe 2000). Air traffic also has stressed parturient and postpartum cows and calves (Yokel 1997).

042 Caribou

Displacement from calving grounds can result in overcrowding and competition on suboptimal habitat. Decreased forage availability and lower nutrient intake can reduce reproductive rates (Cameron 1995, Nelleman and Cameron 1998). Caribou cows within oil fields gained less weight and exhibited lower calving and calf survival rates than did cows outside oil fields (Cameron 1995). Displacement from prime calving grounds may also increase predation (Whitten et al. 1992, Nelleman and Cameron 1998, Griffith et al. 2002, Young et al. 2002).

043 Caribou

Roads and pipelines and the snowdrifts they cause may impede caribou movements between foraging and insect-relief areas or disrupt normal movements, especially if perpendicular to routes (Gilliam and Lent 1982). Groups of >100 caribou, common when under insect harassment and attempting to move to insect-relief areas at the coast, have greater difficulty crossing roads and pipelines than smaller groups (Smith and Cameron 1985).

044 Caribou

Among the four Arctic Alaska caribou herds, the Teshekpuk Lake Herd appears to receive a disproportionately high percentage of the North Slope subsistence harvest (C. George, pers. communication 2002), which took 9 percent of the herd during the period 1999-2000 (Carroll 2002). Because as much as 8-9 percent of the herd is harvested

annually, Carroll suggested that any negative effect on population recruitment could have a strong impact on local hunters. Carroll also reported that caribou at Teshekpuk lake demonstrate strong fidelity to a small calving area around the lake and that calves born in this area have a higher survival rate than those born during migration.

045 Subsistence

High recruitment rates will be necessary to maintain this level of harvest (Carroll 2002). The sustained balance of harvestable yield could fail due to future environmental stress, including severe weather or industrial development projects (G. Carroll, pers. communication 2002; C. George, NSB Wildlife Dept., pers. communication 2002).

046 Caribou

Oil and gas developments in northeastern NPR-A have the potential to significantly impact the Teshekpuk Lake Herd. A geographical information system (GIS) analysis showed that 100 percent of the herd's calving area overlaps with high oil potential (Audubon Alaska 2002). Measures to mitigate oil development impacts that appeared to work during exploration and onset of development in the Central Arctic may have become less effective as the cumulative effects of expanding development increased and the oil fields became operational (K. Whitten, pers. communication 2002).

047 Cumulative

Assessment of cumulative impacts for any development within any portion of the range of the Teshekpuk Lake caribou must reflect current vulnerability to weather stress (Carroll 2002) and include all biological factors noted above and cumulative effects of all development and industrial growth in the western Arctic and throughout the range of Teshekpuk Lake caribou. Nellemann and Cameron (1998) described a reduction of caribou tolerance to disturbance as development complexes grew.

048 Caribou

Geoff Carroll, ADFG Area Biologist in Barrow, has been the principal investigator monitoring Teshekpuk Lake caribou for many years. He has stated (22 September 2003 memo to his ADFG supervisor) the following concerns about potential development around Teshekpuk Lake:

> The TLH has shown strong fidelity to its calving area around Teshekpuk Lake, and caribou that calve in the core area have much higher calf survival than caribou that calve outside the area. In addition, the geography of the area makes it virtually impossible to build structures in the area north, east, or northwest of the lake that would not impede movements to and from insect relief areas. TLH caribou are likely to react even more strongly than CAH caribou to development activities because they are not habituated to them. If development occurs in the calving area, it is likely that TLH will be displaced from the area and structures to the north will interfere with movements to and from insect relief areas.

Molting Geese

049 Birds

General Concerns: The Teshekpuk Lake area is the single most significant waterfowl molting habitat on the Arctic coast of Siberia and North America (King and Hodges

049 (Cont'd) Birds

1979, Silva 1985) with tens of thousands of geese gathering to molt in wetland habitats around the Teshekpuk Lake each year. Derksen et al (1992) described this area as: "...unique, and no other known area could replace this habitat for brant anywhere within the Alaskan Coastal Plain." Teshekpuk Lake is exactly the kind of area which should be recognized and given special protection under the habitat-protection provisions of US-Russian migratory bird treaty, especially given that some of the brant using the area originate in Russia (see below).

050 Birds

As many as 36,817 brant—up to 30 percent of all Pacific Flyway brant—gather each summer to molt north and east of Teshekpuk Lake (Derksen et al. 1979, 1981, 1982; Taylor 1995; Bollinger and Derksen 1996; Mallek 2004). These brant come from elsewhere on the North Slope, Yukon-Kuskokwim Delta , western Canadian Arctic, and Siberia (Bollinger and Derksen 1996). Numbers of greater white-fronted geese molting at Teshekpuk Lake are increasing and range as high as 35,000. These geese are part of the mid-continental population, wintering in gulf coastal states and Mexico. Thousands of Canada and snow geese also gather to molt in the safety of this unique Arctic wetland complex.

051 Birds

The TLSPA was established in Northeast NPR-A, in large part, to protect this unique goose molting area. The 1998 plan restricted development in this area following lengthy and detailed consultations with local residents and waterfowl biologists to protect the Arctic molting geese. The Preferred Alternative reduces the TLSPA by 75 percent, and only 213,000 acres north and northeast of Teshekpuk Lake would be restricted from leasing (Fig. 5 and 6). This huge reduction in habitat protection will increase risks to the internationally-significant populations of molting geese using this area.

052 Birds

Recent analysis by the USGS Alaska Science Center (Flint 2004) finds that over the last five years an average of 47 percent of the molting brant in the TLSPA have used lakes that would be wholly or partly available for leasing under the Preferred Alternative. Since this area provides critical molting habitat for up to 30 percent of the population of Pacific Flyway brant, potential impacts to this population during their sensitive molting season could have substantial consequences. The Pacific Flyway population of brant is substantially below management objectives. In fact, the population is nearing the point where further reductions would trigger new restrictions in subsistence and sport harvests throughout the flyway. Thus, increased development in the Teshekpuk Lake area may place this population at significant risk.

053 Birds

In addition to brant, an average of 44 percent of greater white-fronted geese and 58 percent of Canada geese also have used lakes for molting that would become available for oil development under the Preferred Alternative.

054 Birds

Because of the importance of the Teshekpuk Lake area to molting geese and other waterfowl, the Pacific Flyway Council has recommended (2 July 2004 letter to Henri Bisson) that the sensitive goose molting area should not be offered for leasing nor should it be open to the construction of roads, pipelines or other facilities. Seasonal human activity in this area should be restricted. The Council also recommends that the TLSA be

given permanent protection from future development. Based on these recommendations and consultation with waterfowl experts from state and federal agencies and university scientists, we concur that the TLSPA should be retained at its present size.

055 Impact

Specific Concerns: In the comparison of alternatives (p. 2-81), the DEIS recognizes likely impacts to "small numbers of nesting birds." This analysis understates likely impacts of Alternatives B and C to nesting birds and fails to even mention impacts on the thousands of geese that molt north of Teshekpuk Lake.

056 Birds

On p. 3-41, the DEIS describes brant in the Teshekpuk Lake area, and uses an annual mean of 18,500 molting birds. However, there is high annual variation in numbers of molting brant (and other waterfowl). It is important to acknowledge that as many as 36,817 brant—representing 30 percent of the Pacific Flyway population—use this area in some years. In fact, the importance of this area to brant may be best reflected in the years in which usage is greatest, since these are the years in which breeding conditions are poor elsewhere and it is essential that molting geese have quality habitats in which to molt and restore their body condition for future breeding seasons.

057 Traffic

The discussions of impacts on molting geese due to aircraft disturbance are inadequate. Brant are not even mentioned as a species (pp. 4-99+, 4-205+, and 4-288+), and there is little in the way of discussion of the substantial literature on this subject. For example, on p. 4-205, the DEIS states: "…some birds could acclimate to aircraft activity by either remaining in habitats located near aircraft activities, or by moving to nearby habitats." This statement significantly downplays the likely impacts that air traffic has on molting brant, because, in fact, many investigators (e.g., Derksen et al. 1992) have documented that brant are not easily habituated to aircraft overflights.

058 Traffic

On p. 4-99, the DEIS states: "Johnson et al. (2003b) [cited in the DEIS] conducted the most thorough study of aircraft disturbance to waterfowl in the Arctic at the Alpine Project." This study—the results of which cannot be found in the open, peer-reviewed literature—concerns effects on breeding, not molting birds. Hence, it is of no relevance to a discussion of impacts on molting geese, which is the primary conservation concern for birds in the Teshekpuk Lake area.

059 Traffic

As part of the discussion on the effects of aircraft disturbance of molting geese, it would be highly relevant to discuss the number of flights to and from the Alpine airstrip in relation to the number of flights originally projected for that facility. We understand that the actual number of flights is far higher than projected. The more remote the site, the more that aircraft will be used for access. Unless all activity will shut down when molting geese are present, such flights—even on the periphery of the 213,000 no-lease zone—would present a serious source of disturbance to geese during one of the most sensitive phases of their annual cycle.

On p. 4-381, 2nd paragraph, the DEIS states:

060 Impact

> In the context of the ACP and North Slope, however, the amount of potential bird habitat that could be directly or indirectly impacted long term by oil and gas activities on the planning area and elsewhere on the North Slope would be small—approximately 0.3 percent of the ACP and 0.08 percent of the North Slope.

61

In terms of potential impacts to birds, this statement is virtually meaningless and highly misleading. Birds do not use the Arctic Coastal Plain uniformly. They concentrate in localized, optimal habitats for nesting, brood rearing, molting, and staging. If there is substantial development in a high-density nesting or molting area, there could be significant population impact. The Teshekpuk Lake molting goose area is unique in the circumpolar Arctic, and if there were to be substantial development there, the weight of expert opinion indicates that it could have significant population-level impacts for some species, such as brant.

062 Impact

On p. 4-386, the DEIS states: "The effects of future project infrastructure on bird populations, although additive to natural effects, would be expected to be less severe than those associated with previous Arctic oil field developments." This conclusion is entirely unsubstantiated and misleading. There never has been a development in an area like the Teshekpuk Lake goose molting habitat, so what is the basis for this conclusion?

063 Cumulative

Moreover, one of the concerns missing from the DEIS is the cumulative, synergistic effects of oil development and climate change. The advance of woody vegetation (e.g., Sturm et al. 2001) in the Arctic may shrink the area of optimal habitat for molting geese, which, in combination with oilfield infrastructure and on-going disturbance, especially by aircraft, could displace molting geese from what is now an optimal environment north and east of the lake. Such displacement would almost certainly result in smaller populations, especially for brant.

064 Basic

We also are concerned that the development and production scenario used in the DEIS (e.g., Table 4-3) underestimates the infrastructure that ultimately will be present if alternatives B or C are selected, especially with oil prices at present levels. To understand the basis of this concern, one need only look at the Alpine field as originally proposed and compare that with the growing number and extent of satellite fields, including connecting roads and pipelines, now proposed or being developed.

065 Stips & ROPs

Molting Goose Stipulations and Routine Operating Procedures: In general, performance based stipulations and routine operating procedures provide more room for subjectivity, lack of consistency, and less conservation rigor than prescriptive stipulations[2]. In comparison to the 1998 plan, we view the changes proposed in the DEIS as a step backward.

066 Stips & ROPs

For example, on pp. 2-23/24, the DEIS states [in ROP F-1(e)]: "Aircraft use (including fixed-wing and helicopter) by oil and gas lesses in the Goose Molting Area should be minimized from May 20 through August 20, unless doing so would endanger human life

[2] They also require greater presence in the field by staff from BLM or other regulatory agencies, and we question whether those agencies have the funds and the political will to do the job required in the field.

066 (Cont'd) Stips & ROPs

or violate safe flying practices." This new language has much less conservation force than the 1998 stipulation, which suspended helicopter overflights in the Goose Molting LUEA between June 15-August 20. This is a major difference. Recognizing that aircraft overflights can have significant impacts on molting geese (Derksen et al. 1992), this change in stipulation may result in substantial impacts to goose populations in this important molting area.

067 Stips & ROPs

Stipulations (K-4) to protect geese in the Goose Molting Area are described on pp. 2-30/31. There is no scientific justification given for the 1/4-mile set back from Goose Molting Area lakes. Molting geese are grazers and may be found some distance from water. They are easily spooked and will run from disturbance, heading for deep water. What is the basis for believing that 1/4 mile gives adequate protection? In addition, the presence of pipelines, causeways, permanent platforms, and production equipment—allowed within the 1/4-mile buffer—takes away much of its effectiveness. The presence of any such infrastructure will require year-round servicing and monitoring, with access or observation by surface transportation or from the air, thus introducing sources of significant disturbance, even within the so-called buffer zone.

Nesting Waterbirds

068 Birds

General Concerns: Northeast NPR-A is a very important breeding habitat for many migratory waterbirds, including yellow-billed loons, red-throated loons, spectacled eiders, Steller's eiders, king eiders, long-tailed ducks, and 17 species of shorebirds, including seven that are on the US Fish and Wildlife Service's Birds of Conservation Concern list. Many of these birds, such as yellow-billed loons, are highly sensitive to human disturbance. They also are vulnerable to the effects of predation by the increased numbers of predators that are sometimes associated with Arctic oilfields.

069 Effects of Spills

Specific Concerns: Starting on p. 4-104, the DEIS discusses effects of oil spills on birds. We find that the DEIS underestimates the difficulty of cleaning up oil spills in ice conditions that occur on this area for many months. The National Research Council (2003) and others have concluded that oil spilled in broken ice conditions cannot be cleaned up effectively and would represent a serious threat to migrating or staging waterbirds.

070 Cumulative

On p. 4-381, the DEIS states "There would be minor differences in cumulative effects to birds under the alternatives." There is no justification for this statement, and we strongly disagree. Alternative A protects the TLSPA—857,860 acres—from leasing or surface activity. Alternative B protects only 213,000 acres—a 75 percent reduction compared to Alternative A. Alternative C opens all the area to leasing. In our opinion, the stipulations proposed by BLM for protection of birdlife in leased areas do not begin to compensate for the loss of protection resulting from the opening of increased area to oil development. The differences in cumulative effects among the three alternatives are substantial, and the document fails to provide a scientifically credible cumulative-effects analysis.

071 Stips & ROPs

Stipulations and Routine Operating Procedures: ROP E-11 (p. 2-22) requires aerial breeding pair surveys before approval of facility construction. However, nonbreeders, including molting waterfowl, are also important to assess and monitor.

072 Stips & ROPs

Under special conditions in yellow-billed loon habitat (pp. 2-22 and 23), the DEIS states: "Development may be prohibited within buffers or activities curtailed while birds are present." [emphasis added] This does not give us any confidence that yellow-billed loons actually will be protected in such situations. How will these conditions be determined, and by whom? Will BLM have sufficient field capacity to assess the need to curtail activities?

073 ANILCA

Under the ANILCA subsistence analysis (Appendix B), there is no mention of possible impacts to brant and other waterfowl as subsistence resources for rural residents, especially in western Alaska communities. Nearly 70 percent of all banded brant recaptured at Teshekpuk Lake during their molt originated at colonies on the Yukon-Kuskokwim Delta (Bollinger and Derksen 1996).

74

General Comments: Many scientific papers and agency reports (including the1998 planning documents) have raised concerns regarding impacts to waterbirds associated with industrial development. We have summarized below some of the information on several species that use the Teshekpuk Lake area.

075 Birds

The Arctic breeding population of yellow-billed loons is distributed unevenly in NPR-A (North and Ryan 1986, North 1993) with localized pockets of relatively higher concentrations of pairs (North 1994, King and Brackney 1997). An estimated 3,100 individuals breed on the Arctic coastal plain, predominantly east and west of the Teshekpuk Lake area (Larned unpublished data 1993-1999; North 1994; King and Brackney 1997; E. Mallek, US Fish and Wildlife Service [USFWS], Migratory Bird Management, Fairbanks, AK, pers. communication 2002).

076 Birds

The breeding habitat of the yellow-billed loon is the most restricted of any loon species (Barr 1997), and specific lake selection and locales of breeding concentrations remain unpredictable (Earnst 2000). Habitat availability is considered a limiting factor of yellow-billed loon populations, given the apparent nonbreeding individuals observed in summertime marine waters adjacent to the breeding range (North 1994, Barr 1997).

077 Birds

The yellow-billed loon is considered a vulnerable species on the breeding grounds because of low population densities, limited breeding habitat, low productivity levels, and extreme susceptibility to human disturbance (North 1994, Barr 1997). This species is sensitive to habitat change, appears to be intolerant of intense human activity, and is most susceptible to disturbance during nesting and chick rearing (North 1994, Barr 1997).

078 Wildlife

Direct effects of industrial development on the breeding grounds include disturbance by ground and air traffic, nest failure due to lake drawdown, toxic contamination, and vegetative disturbance on breeding lakes. Secondary effects—because of the availability of garbage— are increased predator populations, including glaucous gulls (*Larus*

078 (Cont'd) Wildlife

hyperboreus) (North and Ryan 1988) and parasitic jaegers (*Stercorarius parasiticus*) (Barr 1997, Johnson et al. 1996) and red (*Vulpes fulva*) and Arctic foxes (*Alopex lagopus*). An additional potential result of development is an increase in nest desertion subsequent to direct human disturbance (Gabrielson and Lincoln 1959, North 1994, Barr 1997, Fair 2002).

079 Birds

The area northeast of Teshekpuk Lake is one of the highest density brant nesting areas on Alaska's North Slope (USFWS, aerial breeding pair survey data). Approximately 33 percent of Arctic Coastal Plain brant nests occur in areas already affected by oil development (Johnson et al. 1996, Stickney and Ritchie 1996, Ritchie et al. 2000, Sedinger and Stickney 2000) and display low nesting success rates (BP 2001).

080 Wildlife

Nesting success may decline because of predation by Arctic foxes (*Alopex lagopus*), glaucous gulls (*Larus hyperboreus*), ravens (*Corvus corax*), and brown bears (*Ursus arctos*) (Sedinger and Stickney 2000, BP 2001).

081 Wildlife

Greater numbers of predators may occur in industrial areas due to anthropogenic sources of food and shelter provided at developed sites (Eberhardt et al. 1982, Martin 1997, Day 1998). The National Research Council (2003) also found that disposal of garbage in industrialized areas of the North Slope was inadequate to prevent attracting high densities of potential bird predators.

082 Birds

Brood rearing in the western Arctic occurs primarily on Harrison Bay salt marshes between Kogru River and Fish Creek just east of Teshekpuk Lake (Ritchie et al. 2000). Brant may be vulnerable to displacement from optimal breeding-ground nutrient availability and to increases in predation and industrial disturbance during brood rearing. Brant feed more during nesting and depend more heavily on breeding grounds nutrient availability than other geese (Sedinger and Stickney 2000).

083 Birds

Nesting pairs of greater white-fronted geese are dispersed singly or in loose aggregations throughout the NPR-A (BLM 1998). Some higher densities are found adjacent to Teshekpuk Lake, the Kogru River, and Cape Halkett (Mallek et al. 2001) (see map of nesting density in Audubon Alaska 2002).

084 Threatened

The spectacled eider is a pelagic sea duck that was listed as threatened under the US Endangered Species Act in May 1993 (USFWS 1996). Ongoing surveys indicate that the North Slope component of the species numbers about 7,000 birds in recent years (Larned et al. 2003) with most breeding in the NPR-A.

085 Threatened

A high-density spectacled eider nesting area occurs northeast of Teshekpuk Lake (USFWS, Eider Breeding Population Survey Arctic Coastal Plain Alaska, 1998-2001) (see map in Audubon Alaska 2002). Nesting success varies substantially by area and year (Petersen et al. 2000). Predator numbers may increase in areas of industrial development because of the availability of garbage. Predators include Arctic fox, gulls, jaegers, and ravens (USFWS 1996, Petersen et al. 2000). Increasing predator numbers may reduce the productivity of nesting eider in and around development sites (Martin 1997, Day 1998).

086 Traffic

Humans and aircraft at distances from 10 to 490 ft, respectively, have been known to flush spectacled eiders from their nests (G. Balogh, USFWS, 1997, pers. communication

086 (Cont'd) Traffic

2002; Petersen et al. 2000). Although there is a low altitude limit on aircraft overflights in the oil fields, increased flights in marginal weather have the potential to disturb nesting birds. Early nests are more successful than delayed nests (Petersen et al. 2000). Delayed nesting due to disturbance or re-nesting caused by increased predation or development activity may lower nesting success.

087 Wetlands

Industrial development in breeding habitats may result in wetland loss or changes due to drainage, impoundment, changes in permafrost, or disturbance (BP 2001; Balogh, pers. communication 2002). One area of relatively high nesting density west of Teshekpuk Lake is already leased while the highest density nesting habitat occurs in the Teshekpuk Lake Surface Protection Area currently unavailable for leasing (BLM 1998). We are unaware of new scientific studies that suggest leasing could occur in this area without placing waterbirds, including spectacled eiders, at risk.

088 Threatened

The Alaska breeding population of Steller's eider is listed as threatened under the US Endangered Species Act. Three breeding populations are recognized worldwide (US Fish and Wildlife Service [USFWS] 2002). A small breeding population on the Arctic Alaska coastal plain, primarily in NPR-A, is the last in North America (USFWS 2000, Fredrickson 2001).

089 Threatened

The breeding population of Steller's eiders in Northeast NPR-A could be vulnerable to habitat loss caused by expanded resource development in the TLSPA. Nest placement data suggest no attraction to, nor avoidance of, manmade structures; however, most Steller's eider nests are greater than 1,640 ft from roads (Obritschkewitsch et al. 2001).

090 Wildlife

Furthermore, predation was the major cause of nest failure near Barrow (1997-2000), and high nest-failure rates may contribute to population decline and inhibit recovery (Obritschkewitsch et al. 2001). Increased predator numbers and predation is a recognized byproduct of oil exploration and development and may affect Steller's eiders where there is contact with oil fields (Martin 1997, Day 1998).

091 Birds

Shorebirds: Shorebirds are the most numerous of the bird communities that inhabit the Northeast NPR-A (BLM 1998). Up to 17 species of shorebirds, numbering up to 2.8 million occur in NPR-A Northeast Planning Area. The TLSPA contains some of the highest densities of shorebirds within the planning area. Although oil field impact studies of shorebirds are few, certain species have been shown to exhibit a negative response to oil field development. For example, a roadside versus non-roadside survey showed that 7 of 8 shorebird species had lower nest densities or breeding counts in areas adjacent to roads compared to roadless areas (Troy 1993). Shorebird species with lower densities near roads included golden plover, semipalmated sandpiper, pectoral sandpiper, dunlin, stilt sandpiper, buff-breasted sandpiper and red phalaropes. Densities of red-necked phalaropes were higher near roads, perhaps in response to their use of thermokarst areas.

092 Birds

We will briefly summarize information on the buff-breasted sandpiper as an example of our concern for shorebirds in Northeast NPR-A. The buff-breasted sandpiper numbered in the millions a century ago, fell to near extinction in the 1920s (Lanctot and Laredo 1994), and is estimated at approximately 15,000 today (Brown et al. 2001). The buff-

breasted sandpiper is one of three top Conservation Priority Species identified by the Alaska Shorebird Working Group and is a Species of High Concern in the US Shorebird Plan (Brown et al. 2001).

093 Birds

High densities of shorebirds breed in area north, northeast and west of Teshekpuk Lake within the current no-lease zone. Because oil facilities are typically placed on drier upland tundra where buff-breasted sandpipers nest and remain to rear broods, the effects of habitat loss and enhanced predation may be more pronounced on buff-breasted sandpipers than other shorebird species. Protection from development of coastal corridor habitats (for pre-migratory staging and feeding) and near shore marine spill events may be highly important for avoiding impacts to the population of buff-breasted sandpipers. The high level of breeding range overlap with current and potential oil development in the NPR-A predisposes this species to significant cumulative impacts from the effects of oil development. Oil field development may reduce sandpiper populations through habitat loss, fragmentation, and enhanced predation (Meehan 1986, Martin 1997, Day 1998).

Thank you for considering these comments. Please include them in the record of public comments on the proposed amendment to the Northeast NPR-A plan.

Sincerely,

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Wayne Regelin, ADFG

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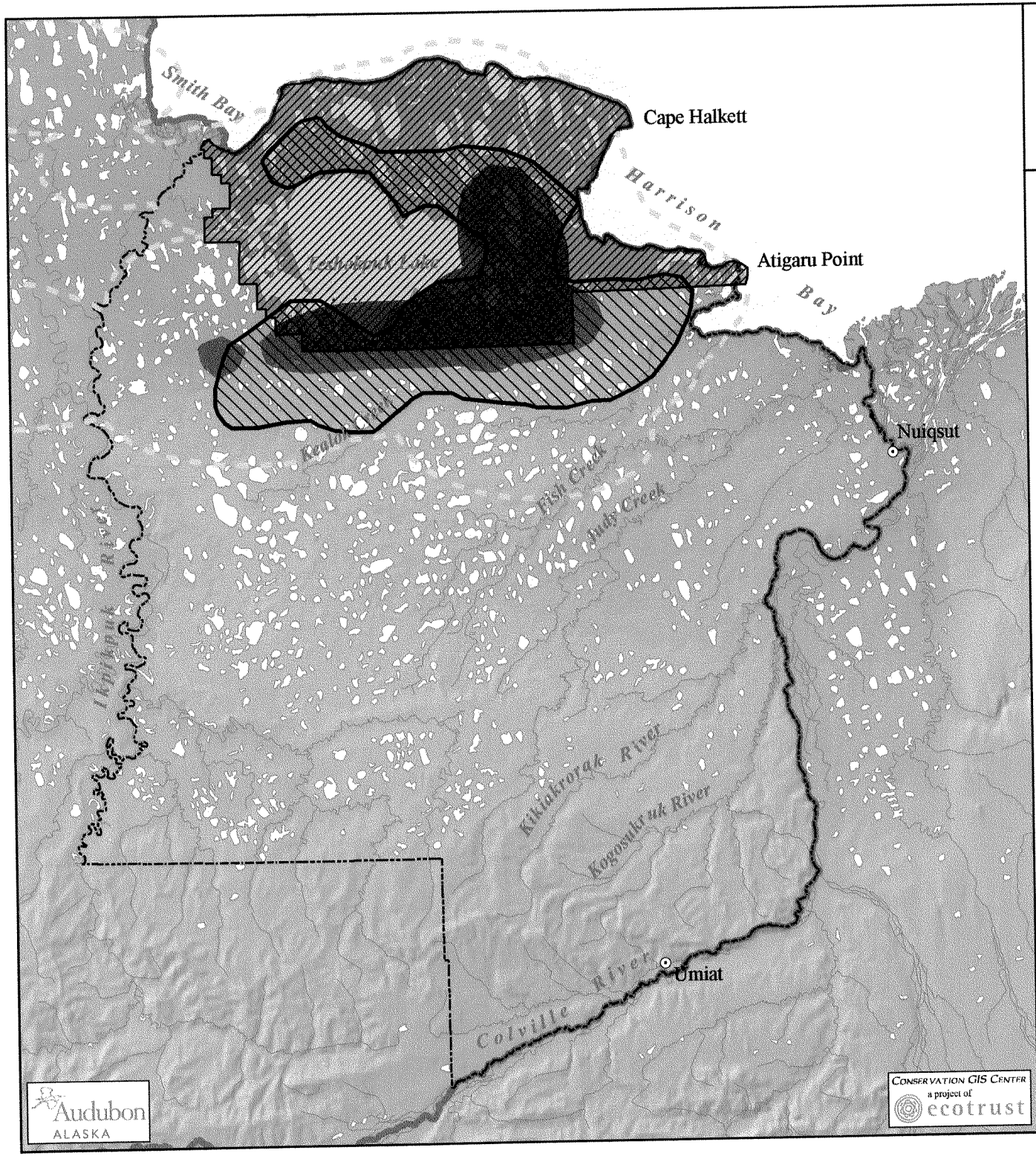
Fig. 1

National Petroleum Reserve - Alaska

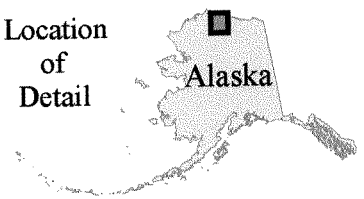
Northeast Planning Area



Teshekpuk Lake Caribou Herd Calving Distribution 1994-2000 [1]

- Primary Calving Area [2]
- Extent of Concentrated Calving [3] (represents approximately 50% of calving observations)
- Extent of Calving [3]
- Teshekpuk Lake Surface Protection Area [4] No Surface Activity or Not Available for Oil & Gas Leasing
- NPR-A Boundary
- Northeast Planning Area Boundary

Sources:
1. Based on Alaska Department of Fish & Game telemetry data.
2. Represents ADF&G's (2002) best understanding of primary calving area. Digitized by Ecotrust.
3. R. Kelleyhouse, University of Alaska Fairbanks, 2001.
4. Bureau of Land Management, Record of Decision, 1998.



Albers Equal Area Conic Projection

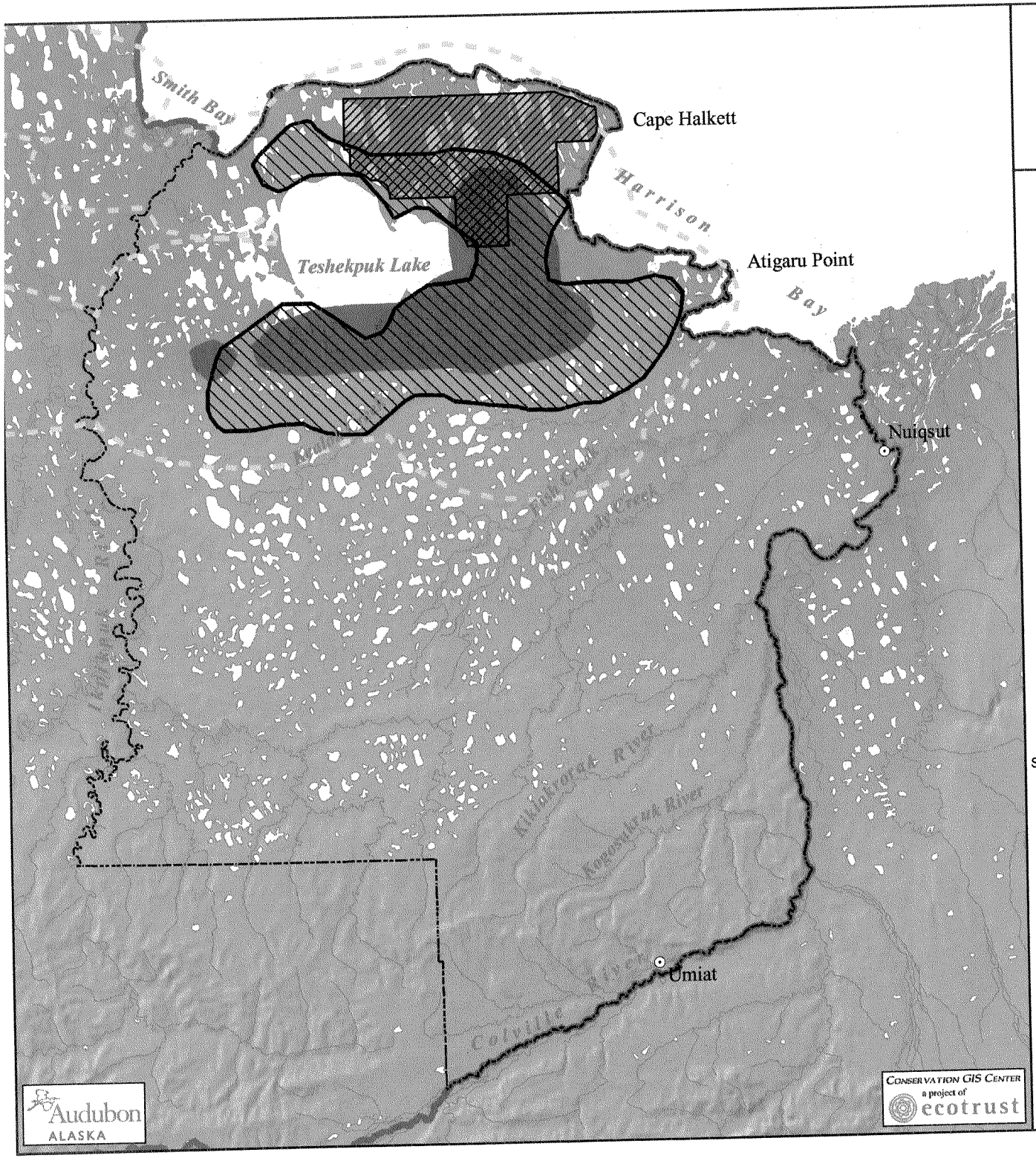
Miles

0 10 20 30 40

Fig. 2

National Petroleum Reserve - Alaska

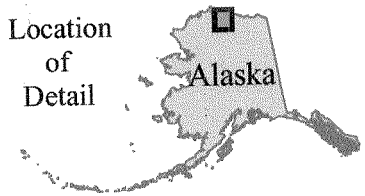
BLM's Preferred Alternative



Teshekpuk Lake Caribou Herd Calving Distribution 1994-2000 [1]

- Primary Calving Area [2]
- Extent of Concentrated Calving [3] (represents approximately 50% of calving observations)
- Extent of Calving [3]
- Unavailable to Oil & Gas Leasing [4]
- NPR-A Boundary
- Northeast Planning Area Boundary

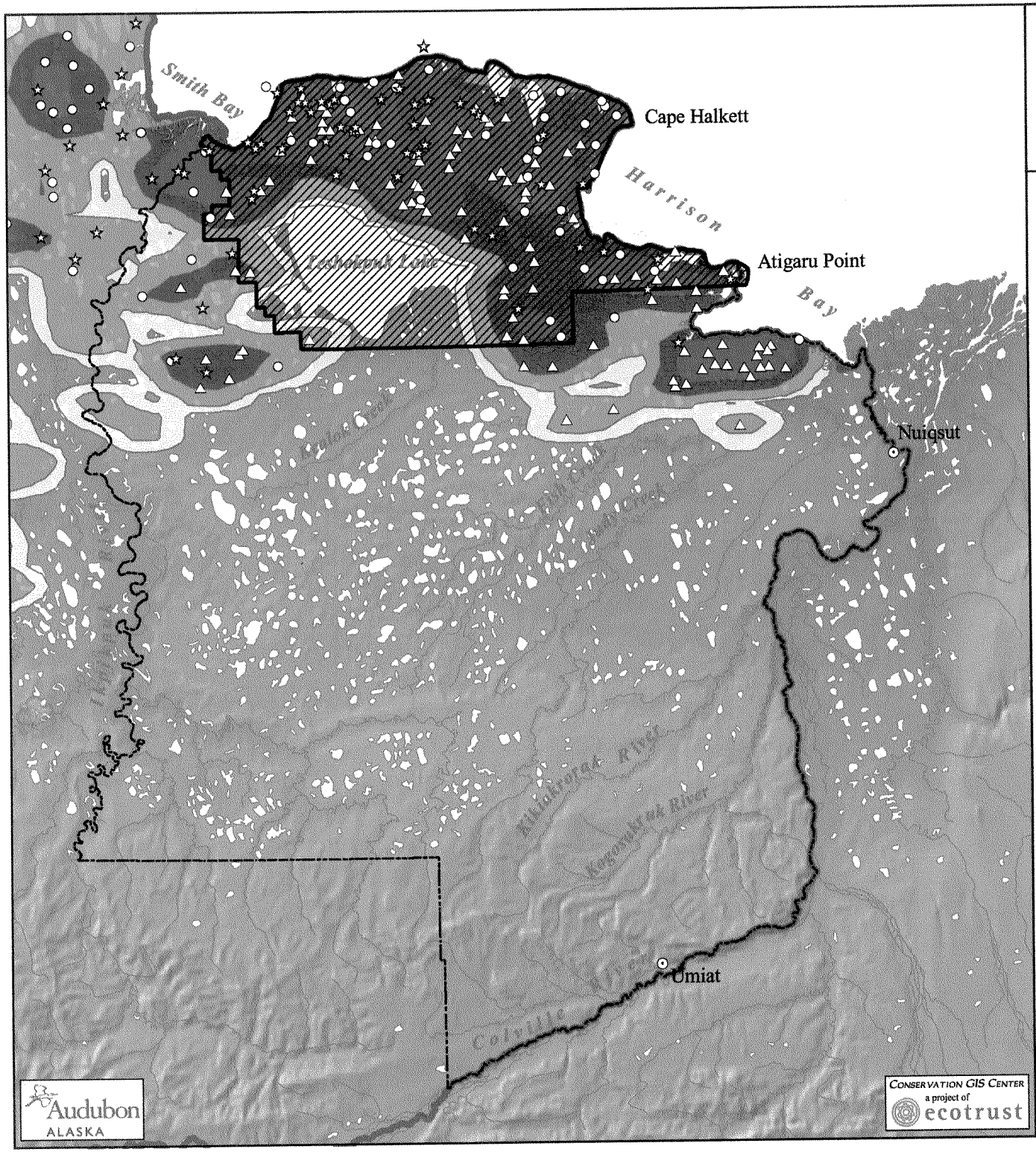
Sources:
1. Based on Alaska Department of Fish & Game telemetry data.
2. Represents ADF&G's (2002) best understanding of primary calving area. Digitized by Ecotrust.
3. R. Kelleyhouse, University of Alaska Fairbanks, 2001.
4. Bureau of Land Management, 2004.



Albers Equal Area Conic Projection

Miles

0 10 20 30 40



National Petroleum Reserve - Alaska

Northeast Planning Area

Teshekpuk Lake Caribou Herd
Insect Relief July 1 - 15

Fixed Kernal Probability 1990 -2002 [1]

50 %
95 %
75 %
99 %

Locations 1990 - 1999 [1]

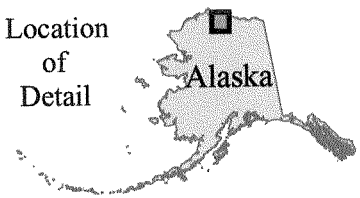
△ 1990 - 1992
○ 1993 - 1996
☆ 1997 - 1999

Teshekpuk Lake Surface Protection Area
No Surface Activity or Not Available for Oil & Gas Leasing

NPR-A Boundary

Northeast Planning Area Boundary

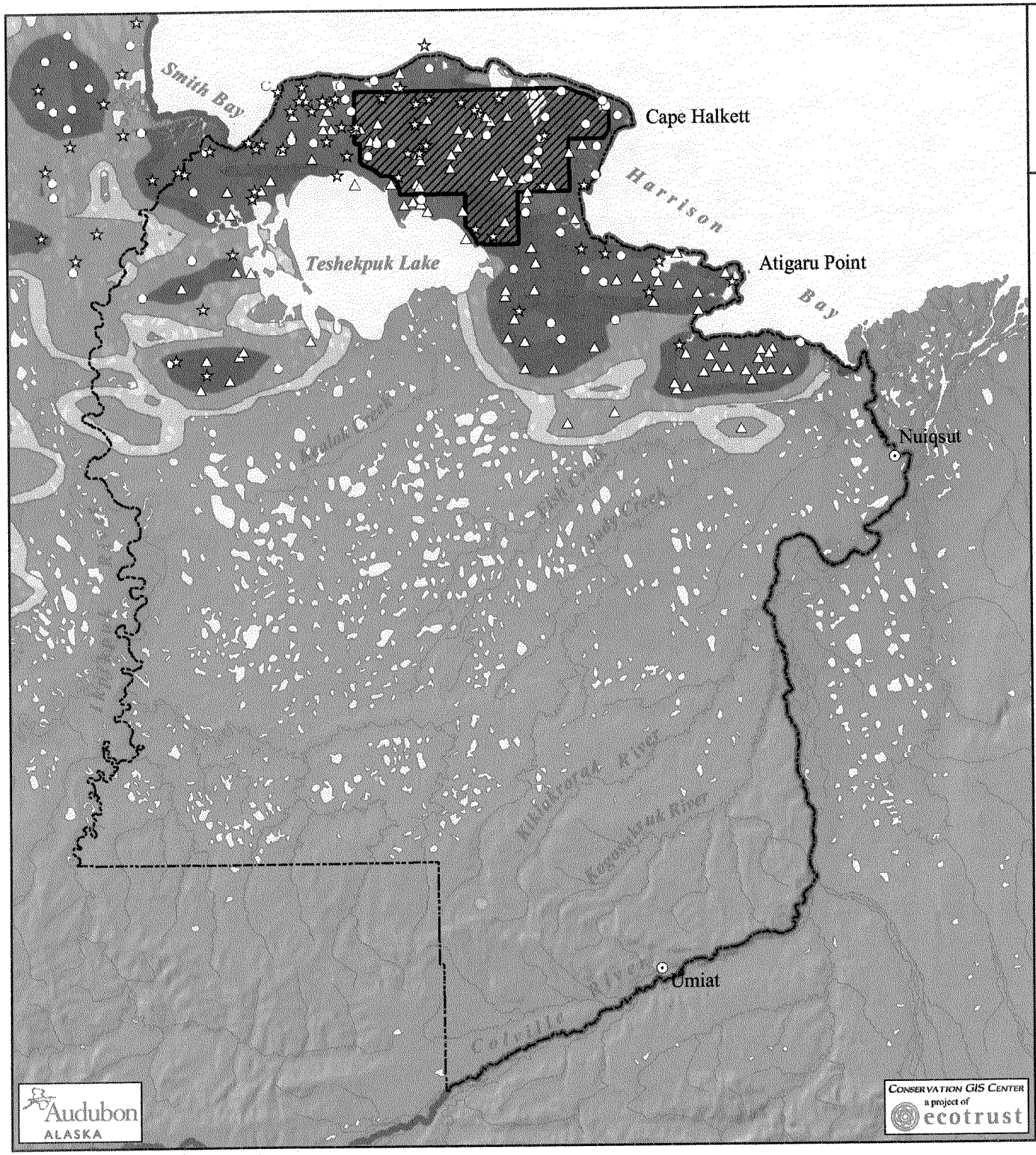
Sources: 1. Alaska Department of Fish & Game; North Slope Boroug ABR, Inc Environmental Research and Services, 2003.
2. Bureau of Land Management, Record of Decision, 1998.



Albers Equal Area Conic Projection

Miles

0 10 20 30 40



National Petroleum Reserve - Alaska

BLM's Preferred Alternative

Teshekpuk Lake Caribou Herd Insect Relief July 1 - 15

Fixed Kernal Probability 1990 - 2002 [1]

50 %

95 %

75 %

99 %

Locations 1990 - 1999 [1]

△ 1990 - 1992

○ 1993 - 1996

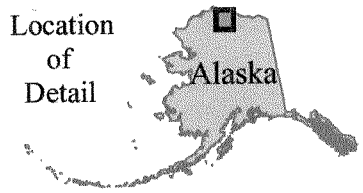
☆ 1997 - 1999

Unavailable to Oil & Gas Leasing [2]

NPR-A Boundary

Northeast Planning Area Boundary

Sources: 1. North Slope Borough Department of Wildlife, ADFG, and Bureau of Land Management, unpublished data.
2. Bureau of Land Management, 2004.



Albers Equal Area Conic Projection

Miles

0 10 20 30 40

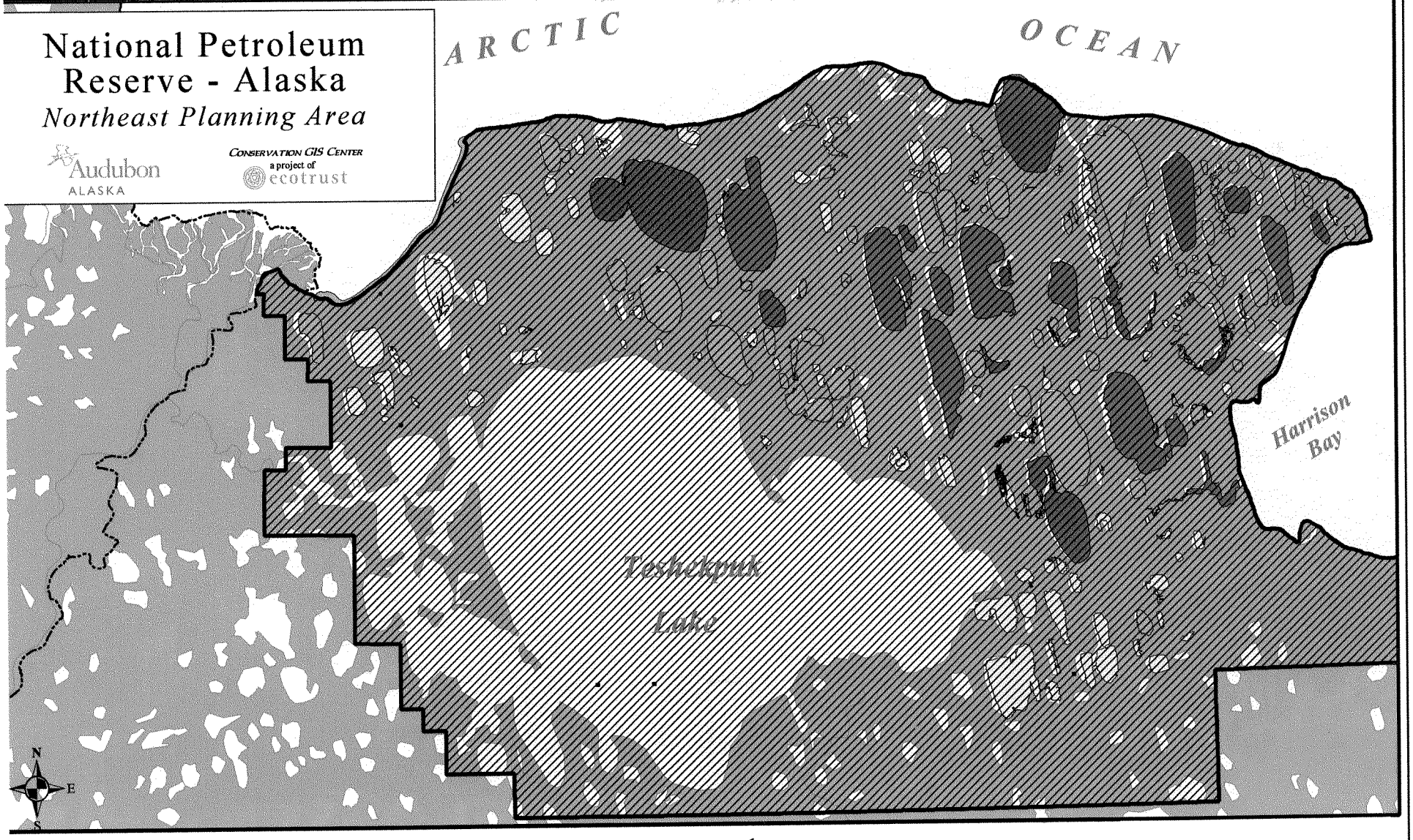
Fig. 5

National Petroleum Reserve - Alaska

Northeast Planning Area

Audubon ALASKA

Conservation GIS Center a project of ecotrust

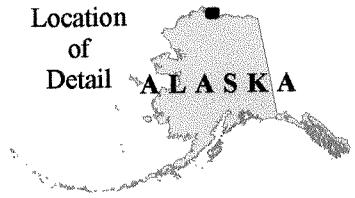


Goose Molting Areas [1]

Mean Annual Count of Molting Geese for the following:
greater white-fronted goose, brant, Canada goose, snow goose

- 1 - 99
- 100 - 499
- 500 - 999
- 1,000 - 3,350
- Teshekpuk Lake Surface Protection Area [2]
  No Surface Activity or Not Available for Oil & Gas Leasing

Location of Detail

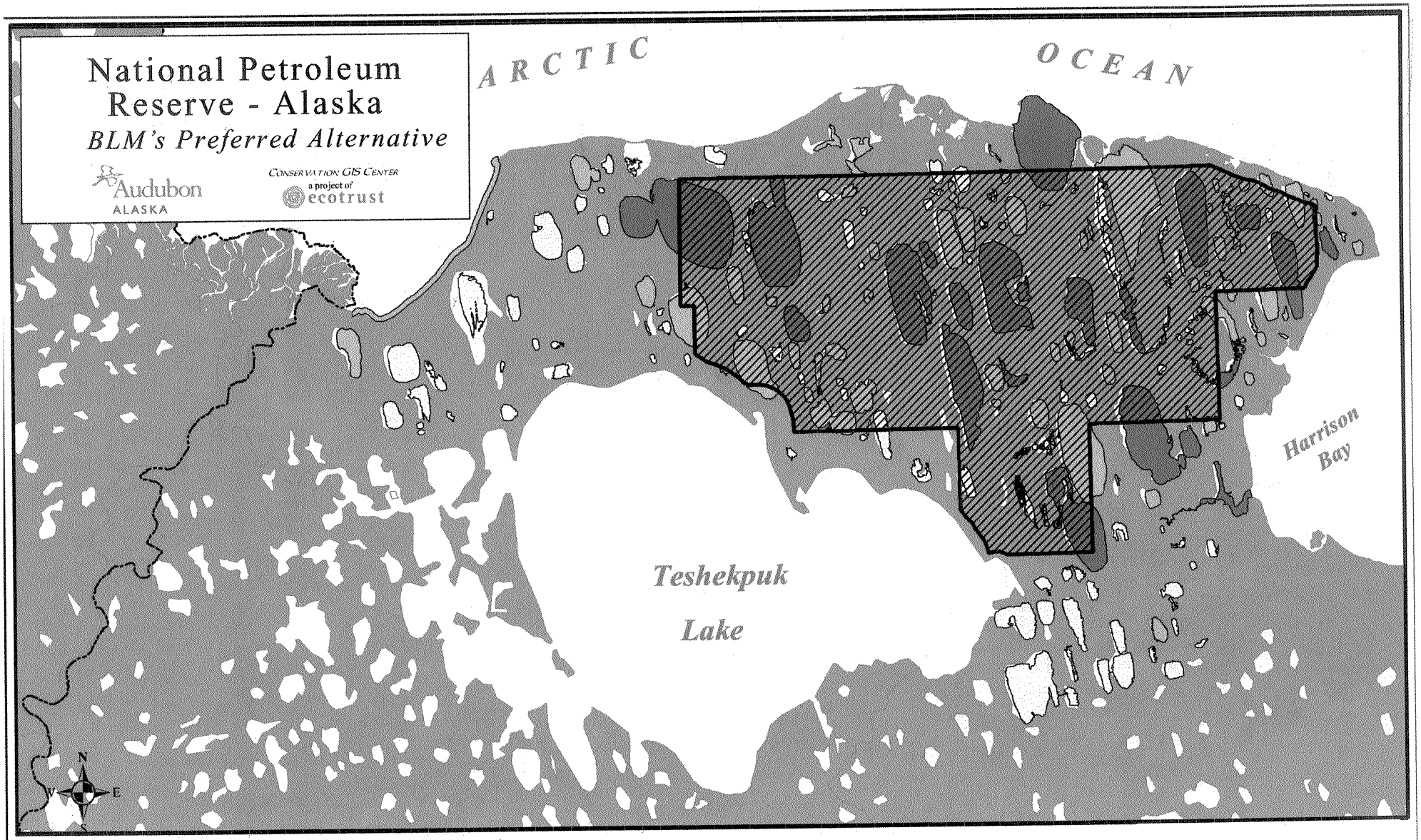


Albers Equal Area Conic Projection

5 0 5 Miles

Source: 1. Data from USFWS, 2002. Based on aerial surveys from 1976-78 and 1982-2001. Survey area includes 200 lakes around Teshekpuk Lake. Averages calculated for 1976-78 and 1982-2001. Data incomplete for a few lakes. [1]
2. Breau of Land Management, Record of Decision, 1998.

Fig. 6



Goose Molting Areas [1]

Mean Annual Count of Molting Geese for the following: greater white-fronted goose, brant, Canada goose, snow goose

1 - 99

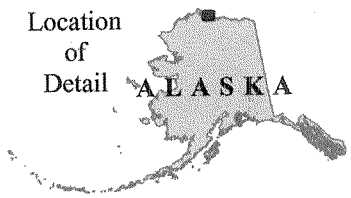
100 - 499

500 - 999

1,000 - 3,350

Unavailable to Oil & Gas Leasing [4]

Location of Detail



Source: 1. Data from USFWS, 2002. Based on aerial surveys from 1976-78 and 1982-2001. Survey area includes 200 lakes around Teshekpuk Lake. Averages calculated for 1976-78 and 1982-2001. Data incomplete for a few lakes. [1]
2. Breau of Land Management, 2004.

Albers Equal Area Conic Projection

5 0 5 Miles